

Time-3 Hours

M.M.75

Instructions-

- (i) All Question are Compulsory.
- (ii) Internon options are given in Q.No.6 to 23.
- (iii) Question No. 1 to 5 total 30 objective types questions total marks is $1 \times 30 = 30$
- (iv) Question No. 6 to 17 carries 02 marks each, give answer in 30 word each.
- (v) Question No. 18 to 20 carries 03 marks each, give answer in 75 word each.
- (vi) Question No. 21 to 23 carries 04 marks each, give answer in 120 word each.

1. Choose and Write the correct option.

(1*6=6)

- (i) Tincture is soluble in -
 - (a) Alcohol solution
 - (b) Iodine solution
 - (c) Water
 - (d) All of the above
- (ii) The momentum of an object of mass m and velocity v will be -
 - (a) mv^2
 - (b) $(mv)^2$
 - (c) $mv/2$
 - (d) mv
- (iii) The weight of an object on Earth is 30 N. Its weight on the Moon will be -
 - (a) 30 N
 - (b) 24 N
 - (c) 5 N
 - (d) 36 N
- (iv) Which of the following elements have atomicity two?
 - (a) Argon and helium
 - (b) Oxygen and hydrogen
 - (c) Phosphorus and sulfur
 - (d) All of the above
- (v) Which scientist first presented the atomic model?
 - (a) J.J. Thomson
 - (b) John Dalton
 - (c) Rutherford
 - (d) Goldstein
- (vi) What is the rate of work done is called?
 - (a) energy
 - (b) power
 - (c) force
 - (d) displacement

2. Fill in the blanks -

(1*6=6)

- (i) Milk is a.....solution.
- (ii) The cell wall of plants is made of.....
- (iii) The thrust applied per unit area is called.....

- (iv) Solid carbon dioxide is also known asice.
- (v) The neutral particle in the nucleus of an atom is.....
- (vi) Ability to do work is called.....

3. Choose true/false -

(1*6=6)

- (i) Colloid is a homogeneous mixture.
- (ii) There are two types of endoplasmic reticulum
- (iii) The first law of motion is also called the law of inertia.
- (iv) The rate of evaporation decreases as the surface area increases.
- (v) The SI unit of power is watt.
- (vi) Asil is a local breed of chicken.

4. Match the correct pairs -

(1*6=6)

- | | |
|---------------------------|--------------------------------|
| (i) High compressibility | (a) $F = ma$ |
| (ii) Bromine | (b) treatment of cancer |
| (iii) acceleration | (c) gas |
| (iv) Second law of motion | (d) vermicompost |
| (v) Cobalt | (e) velocity change/time taken |
| (vi) Earthworm | (f) non-metal |
| | (g) $m+a$ |

5. Answer in one word/sentence -

(1*6=6)

- (i) What is the dispersed phase in jelly and cheese?
- (ii) Write the SI unit of velocity.
- (iii) Name the tissue located in the brain.
- (iv) What is the SI unit of force?
- (v) What is the melting point of water on the Kelvin scale?
- (vi) What are chemically prepared plant nutrients called?

~~6~~ Write two properties of metals.

2

Or

Write two properties of non-metals.

~~7~~ What is the function of vacuole?

2

Or

Write two functions of mitochondria.

Or

2

What is average speed?

~~9.~~ Write two main functions of stomata.

Or

2

Write the functions of sclerenchyma tissue.

~~10.~~ When a moving bus stops suddenly, why do you lean forward?

Or

2

Write the first law of motion

~~11.~~ Write Archimedes' principle

Or

2

What is called buoyant force?

~~12.~~ What do you understand by evaporation?

Or

2

Define sublimation. Give examples also.

~~13.~~ What are polyatomic ions? Give examples.

Or

2

What do you understand by molecule and atom?

~~14.~~ What are isotopes? Write an example.

Or

2

What are isobars? Write an example.

~~15.~~ What is the kinetic energy of an object?

Or

2

What is the potential energy of an object?

~~16.~~ What are macronutrients and why are they called macronutrients?

Or

How do plants get their nutrition?

~~17.~~ Write the names of two foreign breeds of cow.

Or

2

Write the names of two indigenous breeds of cow.

18. Draw a labeled diagram of an animal cell.

3

Or

Write three features of a plant cell.

19. Write the limitations of Rutherford's atomic model

3

Or

Explain Bohr's atomic model.

20. The gravitational force on the surface of the Moon is $\frac{1}{6}$ times the gravitational force on the Earth's surface. What will be the weight in Newton of a 10 kg object on the Moon and on Earth?

3

Or

A stone is dropped from the top of a 19.6 m high tower. Find its final velocity before reaching the earth ($g = 9.8 \text{ ms}^{-2}$)

21. An athlete completes one round of a circular track whose diameter is 200 m in 40s. What distance will he cover after 2 min 20s and what will be his displacement?

4

Or

While traveling to school by car, Abdul finds the average speed to be 20 kmh⁻¹. While returning via the same route, there is less crowd and the average speed is 40 kmh⁻¹. What is Abdul's average speed in the entire journey?

22. Name the elements present in the following compounds -

4

1. Slaked lime,
2. Hydrogen bromide
3. Baking powder (baking soda)
4. Potassium sulphate

Or

Calculate the molar mass of the following substances:

1. Ethyne C_2H_2 ,
2. Sulfur molecule S_8 ,
3. Hydrochloric acid HCl
4. Nitric acid HNO_3

23. Write any 4 difference between parenchyma and collenchyma tissue.

4

Or

Write any 4 difference between striated and non striated muscles.